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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,193	05/12/2006	Shigeru Ichikawa	0943-0166PUS1	6727

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EXAMINER

GORDON, BRYAN P

ART UNIT	PAPER NUMBER
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2834

NOTIFICATION DATE	DELIVERY MODE
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05/21/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/579,193	Applicant(s) ICHIKAWA ET AL.	
	Examiner BRYAN P. GORDON	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 11 and 15 are objected to because of the following informalities: The applicant claims "wherein the rollers are rotated by the ultrasonic vibrators to move the base body in the first direction, one of the right roller and the left roller rotates in a clockwise direction, and the other one of the right roller and the left roller rotates in a counter-clockwise direction". The examiner interprets this as the applicant claiming the there is a second set of right and left rollers which rotate the opposite direction of the first set of right and left rollers when the base body moves in either direction. If that is the case, how does the base body move if one end of right and left rollers is rotating clockwise while the other end of right and left rollers rotates counter-clockwise. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 2834

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-11, 13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunakubo (US PN 5,416,375) and in view of Nonaka (US PN 5,267,796).

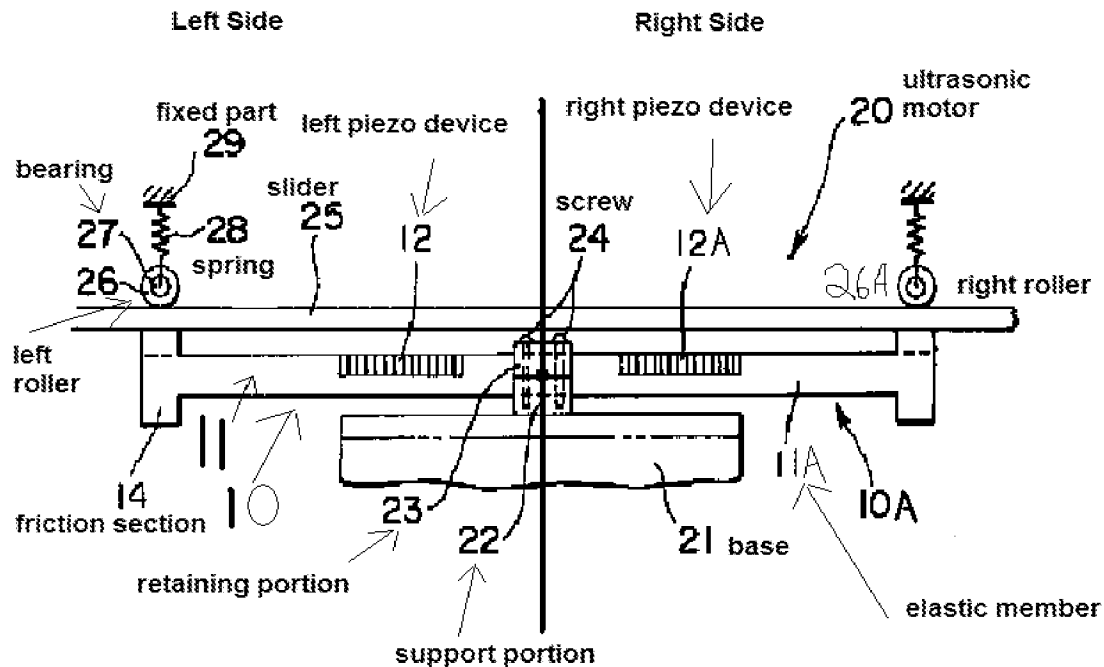


Figure 2

6. Considering claim 1, Kunakubo (Figure 2) teaches a drive device (paragraph 0012) of an ultrasonic linear motor (10) in which a rail (25) and a base body (21) are driven movably relative to one another by a driving part interposed between the rail and the base body, at least a pair of right (26A) and left rollers (26) making contact with side faces of the rail, at least a pair of right (10A) and left ultrasonic (10) vibrators for applying a turning force individually to each of the pair of right and left rollers, an urging member (14) that urges the ultrasonic vibrator and the rollers toward the side faces of the rail; wherein each of the pair of right and left ultrasonic vibrators is comprised of a piezoelectric device (12, 12A) and vibrating elastic member (11, 11A) integrally affixed to the piezoelectric device, and each of the pair of right and left rollers is adapted to be

turned by vibration of the respective elastic member and two polarized regions (12, 12A, col. 5 lines 39-42). The limitation of applying AC voltage to only one of the polarized regions is a limitation directed to the method of driving the device and not the structure itself and therefore is given little patentable weight.

However, Kunakubo does not teach the base body is movably supported on an upper face of the rail by bearings disposed on a bottom face of the base body, and the bearing bear a load of the base body.

In the same field of endeavor, Nonaka teaches the base body is movably supported on an upper face of the rail by bearings disposed on a bottom face of the base body, and the bearing bear a load of the base body (col. 2 lines 7-11) for the benefit of moving the slider.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the base body is movably supported on an upper face of the rail by bearings disposed on a bottom face of the base body, and the bearing bear a load of the base body with Kunakubo's device for the benefit described above.

7. Considering claim 2, Kunakubo (Figure 2) teaches the claimed invention as described above and the holding frame (23).

8. Considering claims 3 + 7, Kunakubo teaches wherein the rail has an upper face (22) for bearing the load of the base body (21) and a bottom face (21) of the base body.

Art Unit: 2834

However, Kunakubo does not teach the sloping sides surfaces from on the left and right side the rollers being mounted on the opposing faces making contact with the sloping side faces of the rail.

In the same field of endeavor, Nonaka (Figure 12) teaches the sloping sides surfaces from on the left and right side the rollers (60) being mounted on the opposing faces making contact with the sloping side faces of the rail (53).

9. Considering claim 4, Kunakubo (Figure 2) teaches the claimed invention as described above.
10. Considering claim 5, Kunakubo teaches the claimed invention as described above in claim 1.
11. Considering claim 6, Kunakubo teaches the claimed invention as described above in claim 2.
12. Considering claim 8, Kunakubo teaches the claimed invention as described above in claim 2.
13. Considering claims 10 and 14, Kunakubo teaches the two polarized regions (12, 12A, col. 5 lines 39-42). The limitation of applying AC voltage to only one of the polarized regions is a limitation directed to the method of driving the device and not the structure itself and therefore is given little patentable weight.
14. Considering claims 11 and 15, Kunakubo teaches the rollers are rotated by the ultrasonic vibrators to move the base body in the first direction, one of the right roller and the left roller rotates in a clockwise direction, and the other one of the right roller and the left roller rotates in a counter-clockwise direction (col. 6 lines 50-60).
15. Considering claims 13 and 17, Nonaka teaches the bearing are ball bearings disposed between the bottom face of the base body and the upper face of the rail at opposite corners of the rail (col. 1 lines 22-27).
16. Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunakubo (US PN 5,416,375), in view of Nonaka (US PN 5,267,796) and in view of Stotzel (US PN 4,978,233).

17. Considering claims 12 and 16, Kunakubo in view of Nonaka does not teach the bearings are bar-shaped bearings disposed between the bottom face of the basebody and the upper face of the rail.

In the same field of endeavor, Stotzel (Figures 2 + 3) teaches the bearings (6) are bar-shaped bearings disposed between the bottom face of the base body (5) and the upper face (9c) of the rail for the benefit of moving the slider. Although Stotzel teaches a thin film plate material as the bearing a simple substitution of one known element (a bar-bearing) for another (thin film plate material) to obtain predictable results.

Therefore, it would have been obvious to one of ordinary skill in the art to replace the bar-bearing with a thin film plate material, because one of ordinary skill in the art would have been able to carry out such a substitution, and the results were reasonably predictable.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN P. GORDON whose telephone number is (571)272-5394. The examiner can normally be reached on Monday-Thursday 8:00-5:30, Friday 7:30-4:00.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. P. G./
Examiner, Art Unit 2834
/Bryan P Gordon/
Examiner, Art Unit 2834

/Darren Schuberg/
Supervisory Patent Examiner, Art Unit 2834